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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/507,253	03/21/2005	John V Frangioni	BIDM-0001-P01	4710

43520 7590 04/14/2009

STRATEGIC PATENTS P.C..
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P.O. BOX 52050
MINNEAPOLIS, MN 55402

EXAMINER	
LUONG, PETER	

ART UNIT	PAPER NUMBER
3737	

MAIL DATE	DELIVERY MODE
04/14/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/507,253	FRANGIONI, JOHN V	
	Examiner	Art Unit	
	Peter Luong	3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 January 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3,5,7-23,25-31 and 34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3,5,7-23,25-31 and 34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/8/2008 and 12/8/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 3, 5, 7-23, 25, 28-31, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Imaizumi et al. (US 6,293,911).

3. Regarding claims 3, 20, 21, and 34, Imaizumi et al. teaches a system comprising: a visible light source (61) capable of illuminating a subject (see col. 18, lines 52-57), the visible light source providing a range of wavelengths including one or more wavelengths of visible light (see col. 19, lines 64- 66); an excitation light source (63) capable of illuminating the subject, the excitation light source capable of providing an excitation wavelength that is not one of the one or more wavelengths of visible light (see col. 19, lines 59-61 and col. 20, lines 8-10); a fluorescent substance capable of being introduced into a circulatory system of the subject, the fluorescent substance being soluble in blood carried by the circulatory system and the fluorescent substance emitting photons at an emission wavelength in response to the excitation wavelength (see col. 19, lines 56-63); an electronic imaging device (see col. 18, lines 61-64) capable of capturing an image of a field of view that includes some portion of the subject and the circulatory system of the subject, the image including a first image obtained from the one or more wavelengths of visible light and a second image obtained from the emission wavelength (see Abstract,

lines 7-13 and col. 20, lines 54-56 and lines 63-64); the electronic imaging device disposed away from the surgical field and adapted to capture images propagating though free space between the surgical field and the electronic imaging device (see Figure 1); and a display (6) capable of rendering the first image and the second image, the second image being displayed at a visible light wavelength (see Abstract, lines 13-17 and col. 22, lines 37-56). See figure 21 and also the embodiments of figure 1 and figure 26. Regarding claim 5, Imaizumi et al. teach that the one or more wavelengths of visible light from the visible light source does not include far-red light (see col. 19, line 64) and that at least one of the excitation light source and the emission wavelength include a far-red light wavelength (see col. 19, lines 59-60). Regarding claims 7 and 8, Imaizumi et al. teach a filter (62) that is capable of separating the emission wavelength from the range of wavelengths from the visible light source (see col. 20, lines 1-4), the emission wavelength being directed toward a first optical transducer of the electronic imaging device (see col. 20, lines 54-56) and the range of wavelengths from the visible light source being directed toward a second optical transducer of the electronic imaging device (see col. 20, lines 57-64). Regarding claim 9, Imaizumi et al. teach a second filter (62) that is capable of separating the emission wavelength from the range of wavelengths from the visible light source (see col. 20, lines 1-4), the emission wavelength being directed toward a first optical transducer of the electronic imaging device (see col. 20, lines 54-56) and the range of wavelengths from the visible light source being directed toward a second optical transducer of the electronic imaging device (see col. 20, lines 57-64), wherein the second optical transducer is capable of

separately sensing at least each one of cyan, magenta, and yellow light intensities (see col. 13, lines 10-13 and col. 25, lines 12-14). Regarding claim 10, Imaizumi et al. teach a second filter (23) capable of separating the emission wavelength from the range of wavelengths from the visible light source (see col. 19, lines 22-24), the emission wavelength being directed toward a first optical transducer of the electronic imaging device (see col. 20, lines 54-56) and the range of wavelengths from the visible light source being directed toward a second optical transducer of the electronic imaging device (see col. 20, lines 57-64), wherein the second filter includes a dichroic mirror (22) capable of reflecting the emission wavelength and transmitting the one or more wavelengths of visible light from the visible light source (see col. 20, lines 36-43 and lines 57-64). Regarding claim 11, Imaizumi et al. teach a filter (23) capable of separating the emission wavelength from the range of wavelengths from the visible light source (see col. 19, lines 22-24), the emission wavelength being directed toward a first optical transducer of the electronic imaging device (see col. 20, lines 54-56) and the range of wavelengths from the visible light source being directed toward a second optical transducer of the electronic imaging device (see col. 20, lines 57-64), wherein the second filter includes a dichroic mirror (22) capable of reflecting the one or more wavelengths of visible light from the visible light source and transmitting the emission wavelength (see col. 1, lines 11-12; col. 7, lines 1-7 and col. 25, lines 2-4). Regarding claim 12, Imaizumi et al. teach a second filter (62) or (29) that shapes the wavelengths of the visible light source (see col. 19, lines 27-28 and col. 20, lines 1-7). Regarding claim 13, Imaizumi et al. teach that the electronic imaging device includes at least one

charge-coupled device (see reference characters "25"-"28" in figures 1,21 and 25). Regarding claims 14 and 15, Imaizumi et al. teach that the electronic imaging device includes a video camera (4A)/(5C) sensitive to visible light (see col. 18, lines 55-60 and col. 19, lines 20-53). Regarding claims 16 and 17, Imaizumi et al. teach that the electronic imaging device captures a visible light image and an emission wavelength image (see col. 18 line 52 - col. 19, line 13), the system further comprising a processor (5C) capable of converting the emission wavelength image to a converted image having one or more visible light components, and combining or superimposing the converted image with the visible light image for display (see Abstract). See figure 21 and also the embodiments of figures 1 and 25 for similar components. Regarding claims 22, 23, 25, 30, and 31, Imaizumi et al. teach that the fluorescent substance labels at least one of an antibody, an antibody fragment, or a low-molecular-weight ligand that accumulates at a lesion, wherein the system is capable of visualizing the lesion, and wherein the fluorescent substance is soluble in blood, and the system is capable of visualizing a blood system (see col. 8, lines 1-25; col. 19, lines 56-63; col. 20, lines 26-29 and col. 28, lines 10-17). See figures 1 and 21. Regarding claim 28, Imaizumi et al. teach that the display (6) is provided to a physician for use during a procedure, the procedure being at least one of a diagnostic procedure or a therapeutic procedure (see col. 2, lines 18-24 and col. 18, lines 52-60). Regarding claim 29, Imaizumi et al. teach a surgical microscope (see col. 11, lines 36-46 and col. 27, lines 52-60). Imaizumi et al. teach combining and/or superimposing emission wavelength and visible light images (see Abstract). Imaizumi et al. also teach that each of the CCDs (25)-(28) produce 30 frame

images per second (see col. 20, line 67). Imaizumi et al. do not teach that the emission wavelength is captured at fifteen frames per second nor do Imaizumi et al. teach that the emission wavelength is converted to thirty frames per second for combination with the visible light image or that the visible light image is converted to fifteen frames per second for combination with the emission wavelength image. However, it would be obvious to one having ordinary skill in the art that the electronic imaging device as taught by Imaizumi et al. is capable of performing the overall function as desired in claims 18 and 19, that function being, combining both the visible light image and the emission wavelength image. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to understand that the electronic imaging device taught by Imaizumi et al. is a functional equivalent of the electronic imaging device of claims 18 and 19 and that the use of an electronic imaging device like that taught by Imaizumi et al. is an improved system in that it permits combining of images without the necessity of converting image frames per second.

4. Claims 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Imaizumi et al. (US 6,293,911) in view of Benaron (US 6,167,297).

5. Imaizumi et al. do not teach that the fluorescent substance is capable of being sprayed onto the subject and that the fluorescent substance is one or more quantum dots. However, Benaron teaches that a fluorescent substance capable of being sprayed onto a subject and a fluorescent substance comprising one or more quantum dots (see col. 5, line 61 - col. 6, line 4 and col. 6, lines 24-26). It would have been obvious to one of ordinary skill in the art at the time of the invention to include a fluorescent substance

capable of being sprayed onto a subject or a fluorescent substance comprising one or more quantum dots in the invention taught by Imaizumi et al., in light of the teachings of Benaron, in order to provide a system with a variety of fluorescing means suitable for a variety of medical procedures.

Response to Arguments

Applicant's arguments filed 1/2/2009 have been fully considered but they are not persuasive.

In response to applicant's argument that Imaizumi et al. does not teach an open surgical procedure, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Luong whose telephone number is (571)270-1609. The examiner can normally be reached on Monday - Friday, 9:30 a.m. - 6:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on (571) 272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BRIAN CASLER/
Supervisory Patent Examiner, Art Unit 3737

/P. L./
Examiner, Art Unit 3737